



Washington  
State Department of  
Agriculture

## PLANT PROTECTION DIVISION PEST PROGRAM

### HORNET HERALD 22.01 – JANUARY 10, 2022

- [2021 Wrap Up](#)
  - [Nest 1 of 2021](#)
  - [Nest 2 of 2021](#)
  - [Nest 3 of 2021](#)
- [Citizen Scientist Update](#)
- [Hornet Lure Research](#)
  - [Mt. Baker Beekeepers Association Collaboration](#)
  - [WSDA Spring Sap Lures](#)
  - [Volatile Research and Testing](#)
- [Hornet DNA Test Results](#)
- [USDA-APHIS Hosts Asian Giant Hornet Meetings](#)
- [Update from Canada](#)
- [Stay Connected](#)

### 2021 DETECTIONS

In 2021, WSDA

- **ERADICATED 3 NESTS**
- **REGULARLY SERVICED 916 BOTTLE TRAPS**

WSDA additionally confirmed 14 detections. Four of these detections were caught in WSDA traps, six of the detections were reported by the public, and another four were netted upon site visits.

The first positive detection of Asian giant hornet in June 2021 came from a citizen report in Snohomish County. This deceased hornet appeared unrelated to the prior introductions in Canada and Whatcom County. WSDA responded by trapping and encouraging public reports and citizen scientist trapping. No additional hornets were confirmed in Snohomish County. [Click here to read the press release.](#)

The first confirmed live detection came from a public report in Whatcom County. Two positive public reports were made on August 11 and 12. Upon visiting the site of the second report, two live hornets were captured, tagged, and released. The first two hornets did not lead to a nest.

---

### NEST 1 OF 2021

During a site visit on August 19, a third hornet was captured, tagged, and tracked, leading to the discovery of the first nest of 2021, followed by an eradication on August 25. [Click here to read the press release.](#)



---

#### NEST 2 OF 2021

WSDA confirmed two additional public reports on September 8, one of which was a resident capture. WSDA tagged and released this hornet and successfully located the second nest on September 9 and removed it on September 11.



---

#### NEST 3 OF 2021

While trapping in the area of the first and second nests, WSDA captured and tagged another hornet which lead to the discovery of the third and final nest of the season. This nest was eradicated on September 23. This nest was particularly challenging to eradicate as it was approximately 15 feet high in a tree and the tree was surrounded by dense vegetation.



It is still important to be on the lookout: dead or alive, AGH reports are helpful. Any confirmed report can provide detection points to help guide trapping efforts and collected hornets can aid in future research. If you think you have seen an Asian giant hornet, [visit WSDA's hornet webpage](#) to report it online, via email at [hornets@agr.wa.gov](mailto:hornets@agr.wa.gov), or call 1-800-443-6684. Include a photo if you can safely obtain one.

#### CITIZEN SCIENTIST UPDATE

In 2021 Citizen Scientists registered

- **771 ASIAN GIANT HORNET BOTTLE TRAPS**

WSDA sends a huge congratulations to those who participated in the citizen scientist trapping program! It was another great year of collaboration. Traps placed by citizen scientists helped expand detection areas and safeguard human health, honeybees, and agriculture. These traps expand the area monitored for AGH – keeping an eye on much of the state - and allow WSDA to focus its efforts on AGH hot spots.

Participants obtained materials, created bottle traps, and monitored their collections beginning in July. They serviced the traps by examining trap contents and replacing the bait solution every 1-2 weeks for 5 months, before taking the traps down at the end of November. This year's citizen scientist trapping yielded zero captures, however in this case, no news is likely good news!

We also wanted to thank the participants who completed the 2021 citizen scientist trapping survey. WSDA is reviewing the results and discussing changes for next year based on your feedback. Stay tuned!

#### HORNET LURE RESEARCH

USDA-ARS, USDA-APHIS, WSDA, and collaborators are continually testing out lure options to find the best attractant for trapping hornets in the genus *Vespa*, which includes Asian giant hornet.

---

## MT. BAKER BEEKEEPERS ASSOCIATION COLLABORATION

WSDA and Mt. Baker Beekeepers Association placed pairs of traps with different lures throughout 62 sites in Whatcom County. One trap held an orange juice and rice wine lure, while the second trap's bait was comprised of grape juice, rice wine, and Calpis lactic acid drink. Trapping results suggested that both traps performed similarly.

---

## WSDA SPRING SAP LURES

In their native range, queens are believed to emerge in the spring from overwintering with a preference for feeding on tree sap. Therefore WSDA and Mt. Baker Beekeepers Association deployed sap traps in 2020, yielding no hornets. In 2021, WSDA additionally deployed sap lures at ten sites based on 2020 detections – again, no hornets were captured.

---

## VOLATILE RESEARCH AND TESTING

USDA-ARS, USDA-APHIS, and WSDA are researching lures with specific compounds that hornets may be attracted to, or substances referred to as volatiles. In 2020, Dr. Allard Cosse provided compounds reflective of sap volatiles for testing. Dr. Jackie Serrano pulled multiple compounds to formulate volatiles of honey bee, hornet, and hornet alarm pheromones, bacillus, and even meat.

These experimental lures were tested in 2020 and 2021. In August 2021, seven experimental lures were deployed at 33 randomly selected sites within the survey area. Several of these sites were within foraging distance of identified nests.

The lures did not seem effective this season. Lures that were comprised of food-based volatiles may have performed poorly due to extreme heat throughout the season. In October, the experimental lures were shipped to Tottori University in Japan. There Dr. Naka Hideshi will deploy the lures locally in places where the hornets occur. After these results, an experiment in Japan for 2022 is planned.



Hornets removed for volatile research.

## HORNET DNA TEST RESULTS

WSDA collected DNA samples from multiple hornets from each nest that was eradicated in 2021 in order to attempt to determine whether the 2021 nests were related to the nest which WSDA eradicated in 2020. The DNA results suggest that all three 2021 nests did indeed come from the 2020 nest. The hornet queens that started the 2021 nests likely emerged from the 2020 nest and mated just before it was eradicated.

## USDA-APHIS HOSTS ASIAN GIANT HORNET MEETINGS

During the upcoming weeks the United States Department of Agriculture's Animal and Plant Health Inspection Service (USDA APHIS) will host virtual meetings to discuss 2022 season plans. WSDA and APHIS will review the accomplishments and lessons learned during the 2021 season. This group will discuss survey plans and outreach efforts to use during the 2022 season. The meetings will also support research in APHIS, WSDA, USDA's Agricultural Research Service, academia, as well as discussion of future research needs to support AGH eradication.

## UPDATE FROM CANADA

British Columbia's 2021 survey ended December 1, with the last traps being removed in the Fraser Valley along the Canada-US border. The season yielded one deceased worker hornet caught in a Japanese beetle trap. The specimen is believed to have been in the trap since September and prior to the eradication of the last AGH nest in Whatcom County. The beetle trap was about 300 meters from the Canada-US border.

Since September 2019, not a single verified sighting or specimen collection has been reported on Vancouver Island despite surveillance and citizen participation throughout Nanaimo area and the Cowichan Valley. With the absence of the pest, BC plans to declare Vancouver Island (and Gulf Islands) free of AGH this coming spring.

Bottle traps surveillance, citizen participation, and organizational support will resume in 2022. The main target area includes White Rock to Aldergrove near the Canada-US border.

## STAY CONNECTED

WSDA is dedicated to working with the public and to providing information on Asian giant hornets.

Contact [hornets@agr.wa.gov](mailto:hornets@agr.wa.gov) if you are interested in learning more about Asian giant hornets.

- View [past news releases, blogs, and Pest Program updates](#) about Asian giant hornet.
- Join the [Asian giant hornet Facebook group](#).
- Join the [Pest Program email listserv](#).
- Follow WSDA on [Facebook](#), [Instagram](#), [YouTube](#), and [Twitter](#).